

REMARKS

I. Introduction

In response to the pending Office Action, Applicants have amended claims 1 and 3 in an effort to further clarify the intended subject matter of the present invention. No new matter has been added. Applicants respectfully submit that all pending claims are patentable for at least the reasons set forth below.

With regard to the request to amend Figs. 8A-8E to include the legend "Prior Art", it is noted that the subject matter set forth in these figures merely represents a comparative example put forth by the Applicants (as is explained in the specification). The figures do not constitute prior art as defined by the various statutory classes concerning prior art. As such, Applicants respectfully submit that Figs. 8A-8E do not need to be amended to include the legend "Prior Art".

II. The Rejection Of The Claims Under 35 U.S.C. § 103

Claims 1, 3, 6 and 8-13 were rejected under 35 U.S.C. §103 as being unpatentable over the AAPA in view of JP 8-85341 to Kamimura and USP No. 6,660,659 to Kraus. Applicants respectfully submit that, as amended, both claims 1 and 3 are patentable over the foregoing prior art references.

As recited by both claims 1 and 3, the present invention relates to a method of fabricating a semiconductor device which includes the steps of forming an oxide film, using a solution including an oxidizer, on a surface of a silicon layer provided at least in part of a semiconductor substrate; and thereafter the oxide film is turned into an oxynitride film *by exposing the oxide film to a plasma having an electron energy of 5 eV or less and containing nitrogen.*

In the pending rejection it is acknowledged that the AAPA fails to disclose or suggest utilizing a solution including an oxidizer, or turning the oxide film into an oxynitride film by exposing the oxide film to a plasma having an electron energy of 5 eV or less and containing nitrogen. Kamimura and Kraus are relied upon as disclosing these elements, respectively. It is respectfully submitted that this conclusion is in error.

Kamimura discloses that a chemical oxide film is formed on the surface of the silicon substrate in an oxidizing aqueous solution, and then a thermal oxide film is further formed on the silicon substrate by thermal oxidation. In other words, after the formation of the chemical oxide film, a thermal oxide film is formed. According to Kamimura, this is done in order to prevent recesses and projections from forming in and on the surface of the silicon oxide film due to nitrogen gas or inert gas during thermal oxidation. Importantly, however, in order to obtain this objective, in the process of Kamimura the chemical oxidation must be performed before the thermal oxidation.

Thus, contrary to the claimed invention, Kamimura does not disclose that the oxide film is exposed to a plasma containing nitrogen as recited by claims 1 and 3 of the present invention. As noted, Kamimura discloses that after the formation of the chemical oxide film, the thermal oxide film is formed. Thus, Kamimura does not disclose a device or fabrication method in which in the oxide film is exposed to a plasma containing nitrogen. In fact, Kamimura teaches away from the claimed invention.

Accordingly, even assuming *arguendo* that the combination of the AAPA, Kamimura and Kraus is proper, the combination still fails to disclose the method of the present invention as recited by claims 1 and 3 for at least the foregoing reasons.

Thus, as each and every limitation must be disclosed or suggested by the prior art in order to establish a *prima facie* case of obviousness (*see*, M.P.E.P. § 2143.03), and the foregoing

combination of prior art fails to do so, it is clear that claims 1 and 3, and all claims dependent thereon, are patentable over the cited prior art references.

III. Conclusion

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP

A handwritten signature in black ink, appearing to read "M. Fogarty", followed by the handwritten number "#46,692".

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Date: November 7, 2005